Name _____ Date _____

Relative Conditional Probability - Guided Lesson Explanation

Explanation#1

First we have to see what form of probability is being asked of us.

"Relative conditional probability"

Step 1) $\overline{BD}$ is completely contained in $\overline{AE}$. The length of $\overline{BD}$ is BD = $|5 - 7|$ = 2. The length of $\overline{AE}$ is AE = $|4 - 8|$ = 4.

Divide BD by AE to find the probability that a point chosen at random on $\overline{AE}$ is also on $\overline{BD}$.

The probability is $\frac{BD}{AE} = \frac{2}{4}$

Now simplify this $\frac{1}{2}$

So, the answer is $\frac{1}{2}$

Explanation#2

First we have to see what form of probability is being asked of us.

"Relative conditional probability"

The segment between 6 and 19 is completely contained in the total segment. The length of the shorter segment is the absolute value of the difference between its left endpoint and right endpoint, which is

$|6 - 19|$ = 13.

Similarly, the total length of the segment is $|1 - 19|$ = 18.

Divide the lengths to find the probability that a randomly chosen point between 1 and 19 is also between 6 and 19.

The probability is $\frac{13}{18}$.

So, the answer is $\frac{13}{18}$

Name _____ Date _____

Explanation # 3

Step 1) First we have to see what form of probability is being asked of us.

"Relative conditional probability"

Step 2) $\overline{OS}$ is completely contained in $\overline{MS}$. The length of $\overline{OS}$ is OS = $|2 - 6|$ = 4. The length of $\overline{MS}$ is MS = $|0 - 6|$ = 6.

Divide OS by MS to find the probability that a point chosen at random on $\overline{MS}$ is also on $\overline{OS}$.

The probability is $\frac{OS}{MS} = \frac{4}{6}$

Now simplify this $\frac{2}{3}$

So, the answer is $\frac{2}{3}$